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Author(s): Clavert, Maria & Löfström, Erika & Nevgi, Anne
Title: Pedagogically aware academics' conceptions of change agency in the fields of science and technology
Year: 2015
Version: Post print

Please cite the original version:

Clavert, Maria & Löfström, Erika & Nevgi, Anne. 2015. Pedagogically aware academics' conceptions of change agency in the fields of science and technology. *International Journal for Academic Development*. Volume 20, Issue 3. 252-265. ISSN 1360-144X (printed). DOI: 10.1080/1360144x.2015.1064430.

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Pedagogically aware academics' conceptions of change agency in the fields of science and technology

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Pedagogically aware academics' conceptions of change agency in the fields of science and technology

Pedagogical transformations in universities are typically explored as 'top down' attempts or in the context of training programs targeted towards educating more pedagogically aware individuals. In this study, promoting pedagogical development is explored on a community level as change agency: acting as a broker between the discipline-specific and pedagogical communities of practice in order to establish mutually shared new concepts and practices of teaching and learning. Thirteen pedagogically aware academics from the fields of science and technology participated in thematic interviews in which they were asked to describe change agency. The descriptions were explored utilizing a social theory of learning and categorized with content analysis. The findings reveal practical means of promoting pedagogical development between academic communities and point out various identities related to acting as a change agent. The study provides a theoretical model and further advances the understanding of pedagogical change agency in the fields of science and technology.

Keywords: brokering; change agency; community of practice; transformative learning

Introduction

For the past two decades, universities have experienced considerable pressure to develop as a teaching and learning environment. Mass participation in higher education, commercialization of public higher education, and changing national economic requirements have forced universities to reform their pedagogical practices (Doring, 2002; Taylor, 1997). The development pressure has increasingly focused on a programme rather than course level (Knight & Wilcox, 1998). Promoting the reforms has been typically assigned to centralized staff development programmes that aim at improving the teaching skills of individual academics (e.g. Gibbs & Coffey, 2004; Postareff, 2007).

However, as organizational development requires context-specific knowledge involving localized strategies and action, it must be based in local academic communities (Hanrahan et al., 2001; James, 1997; Taylor, 1997). Thus creating approaches that engage academics to collaborative educational development is called for (Fullan, 1993; Knight & Wilcox, 1998).

In the previous research of pedagogical development in higher education, the term ‘change agent’ has been referred to as an organizational actor with official developer status, such as faculty developer (Fletcher & Patrick, 1998), educational developer (Knight & Wilcox, 1998), academic staff developer (Ho, 2000; Smyth, 2003), and professional developer (Roche, 2001). Because academics are usually seen to preserve their traditional disciplinary orientations, their ability to initiate change within their own institutions has been widely questioned (Fletcher & Patrick, 1998; Hanrahan et al., 2001; Knight & Wilcox, 1998; Roche, 2001; Smyth, 2003). Previous research has identified several challenges related to intruding on the individualistic academic traditions, undermining the professional ideologies of colleagues, and compelling the academics to alter their work regardless of the time pressures, lack of resources, heavy workloads, and temporary contracts (Knight & Wilcox, 1998). However, as the university transformations are increasingly concerning all levels of organizational actors, there is a need to define change agency more broadly by including all pedagogically aware academics to the definition (Knight & Wilcox, 1998; Roche, 2001).

The ability of academics to instill pedagogical transformation on an organizational level has been a less explored research object than that of individual development as a teacher (e.g. Hubball, Collins & Pratt, 2005; Postareff, Lindblom-

Ylänne & Nevgi, 2007; 2008; Stes, Coertjens & van Petegem, 2010). In this study, change agents are regarded as pedagogically aware academics who function as mediators between the pedagogical ideas presented in official training programmes, disciplinary oriented faculty members, and the organizational goals of the university. They are aware of their own pedagogical approach and are trying to facilitate the transformative learning process of their disciplinary colleagues, such as research group members, by bringing new understandings to bear on the existing practices (James, 1997; Roche, 2001). In order to explore the possibilities for such transformations, the following research question is posed: How do pedagogically aware university academics in the fields of science and technology conceptualize the practices and the identity of a pedagogical change agent?

The disciplines of science and technology differ fundamentally from the field of education in how knowledge is taught to others. Engineering lecturers tend to consider teaching as straightforward knowledge transfer from a disciplinary expert to the students (Winberg, 2008). In the field of education, teaching is based on a knowledge construction process of the students. While pedagogical transformations towards a more student-centred approach are called for, the academic reward systems and quality assurance processes are focused around research-based merits, such as the number of publications. Consequently, most academics value scientific research over teaching (Doring, 2002). They have significant research responsibilities and a great deal of autonomy in how they teach (Turns et al., 2007). The underrated status of teaching hinders pedagogical development efforts and widens the gap between research and teaching related activities.

Communities of practice and change agency

In order to explore pedagogical development within the research-oriented communities, a theoretical concept “community of practice” is utilized. Presented by Lave and Wenger (1991) and further developed by Wenger (1998; 2000) the concept explains how learning is situated in informal communities with pursuit of a shared enterprise. Universities can be understood as entities consisting of many communities of practice typically gathered around disciplinary research and teaching (Brew, 2002; Hanrahan et al., 2001; Taylor, 1997; Winberg, 2008). The discipline-specific community of practice is typically the department or research group within which the teachers conduct their daily practices of teaching and research. Within this community, pedagogical understanding stems from the didactic traditions of the discipline. The community members typically base their teaching to the ways they were taught in their own studies. The pedagogical community of practice usually consists of academics from various discipline-specific communities beyond the administrative and structural divisions. The community is built around relationships established in common pedagogical activities, such as in-service training programmes (Brew, 2002; Remmik et al., 2011; Winberg, 2008). Participation to these activities exposes the academics to new pedagogical ideas and promotes pedagogical awareness.

Communities of practice are guided by shared rules but also open to new meanings and practices (Lave & Wenger, 1991; Wenger, 1998; 2000). Pedagogically aware individuals have the potential to establish new, sometimes contradictory, meanings and practices within their disciplinary communities. These contradictions provide a basis for transformative learning (Lave & Wenger, 1991; Remmik et al., 2011). Transformative

learning process includes critical reflection of the shared pedagogical assumptions, new information, discussion of its possible interpretations. If the new information is found acceptable, it is incorporated into the structures of meanings through which the pedagogical experiences are interpreted within the community (Mezirow, 1997). As transformative learning changes the shared pedagogical practices, it is the goal of pedagogical change agency.

Pedagogical change agency as brokering

The process of transformative learning is based on engagement to a community and negotiation of the shared meanings. It is indicated by new practices and possible identities of the community members (Mezirow, 2000; Wenger, 1998; 2000). These interconnected and mutually defining components of transformative learning are presented in Figure 1. In this study, these components provide a basis for exploring pedagogical change agency as ‘brokering’ across the community borders.

[ATTACH FIGURE 1 HERE]

Brokering related to belonging to a community

Change agents are simultaneously members of their disciplinary and pedagogical communities of practice. They would rather consciously introduce new meanings and practices between the communities than concentrate on any one practice (Meyer, 2010; Wenger, 1998; 2000). Mediating between different perspectives results in learning that transforms the communities (Wenger, 1998; Winberg, 2008). This brokering requires enough legitimacy within the community to be listened to, but also enough distance to

question the shared meanings of the community (Lave & Wenger, 1991; Wenger, 1998; 2000). Change agents must effectively contribute to the development of the communities while they are engaged in those communities themselves (Brew, 2002). For example, newly hired community members possess the official membership but do not yet share the meaning perspective. They have the potential to develop the community by doing things differently and asking critical questions.

Brokering related to negotiation of meaning

Cross-communal negotiation of meaning focused on the shared belief systems and practices is inherent in organizational change and transformative learning (Hanrahan et al., 2001; Mezirow, 1997; Taylor, 1997). The negotiation can be based on personal participation or institutional reification. The former might occur as establishing trustful relationships with other community members, but could also take the forms of nepotism, influencing through charisma, or discrimination (Smyth, 2003; Wenger, 1998). The latter includes for example legislation, policies, contracts, and formal plans. Since change agency is here regarded as an unofficial activity, it is mainly based on processes of participation (Wenger, 1998).

Brokering related to practices

Brokering requires practices that promote translation, coordination and alignment between various perspectives of different community members. Due to belonging to both pedagogical and discipline-specific academic communities, change agents can transfer visions of more effective pedagogical practices from one community to other and

introduce new elements to the shared academic repertoire. Change agents can also promote pedagogical dialogue and transfer by establishing new practices that connect the two communities, such as teaching seminars for researchers (Meyer, 2010; Wenger, 1998). Reification aims at establishing novel elements within the existing community repertoires and providing direction for their application (Wenger, 1998).

Brokering related to identity

Participation in a community of practice is a source of identity (Wenger, 2000). Because academics typically focus on the core functions of the community, acting on the boundaries is easily interpreted in personal terms as individual incompetence (Wenger, 1998). Thus indicating a desire to develop one's teaching within a research-oriented community can be pose a threat to one's identity as an academic (Taylor, 1997). The academics who try to mobilize their colleagues to engage in pedagogical development but who lack an official developer status are a marginalized group within the university system (Knight & Wilcox, 1998).

Elements of brokering have been identified also in previous studies on official organizational developers (see e.g. Meyer, 2010). Their identity is based on an ideal of a professional, proactive, futuristic, and holistic thinker for whom providing support is a high-order value. They negotiate meaning by questioning the shared perspectives and practices in reflective discussions and cultivate the shared repertoire by providing relevant information and establishing guidelines for equal collaboration (Fletcher & Patrick, 1998; Ho, 2000; Knight & Wilcox, 1998; Roche, 2001; Smyth, 2003; Weick & Quinn, 1999). They encourage a sense of communality by helping people to connect with

the organizational goals and by bridging various pedagogical approaches. They also implement changes in practice and showcase how the contributions will be included in the emerging organizational culture (Remmik et al., 2011; Roche, 2001; Smyth, 2003).

Even though change agency as brokering has been recognized as a way of development in previous research, less is known about what constitutes a change agent identity and what academics themselves view as change agent practices (Meyer, 2010).

Methods

In 2010, three Finnish universities from the fields of science and technology, business and economics as well as arts and design were fully merged into one. The new university aims at becoming an international university of world-class stature. According to its strategy, the success of the university is in the hands of its faculty, staff, and students, all committed to building extensive collaboration networks between various interest groups within and outside the University. The development strategy relies heavily on the grassroots level activeness and the empowerment of the faculty staff. However, the concrete ways of conducting bottom-up development remain undefined. Out of the 5 330 faculty and staff members, all teachers should carry out research and all researchers should also teach. At the time of this study in 2011, the university was in a transition phase of the merger, and the academics were preparing for Bachelor's degree programme reforms conducted in all of its six schools in 2012. As a part of the reforms, the schools were developing their educational practices, and most academics were engaged in the development processes on a department, programme, or course level.

Data collection

In order to explore change agency as means of pedagogical development, an interview request was sent to 25 academics enrolling in a one-year pedagogical change agent programme organized by the University. The programme was targeted to pedagogically trained academics who were interested in developing the teaching quality of the University. During the programme, the participants supported each other in their development efforts by, for example, sharing experiences and attending engineering education conferences together. Participation to the programme was voluntary and did not entitle to an official developer status within the University. A total of 13 academics from the fields of science and technology volunteered to participate in thematic interviews that were conducted in Spring 2011. They all were on teaching and research appointments at the University and had completed at least 25 ETCS of pedagogical training before enrolling to the programme. The distribution was even across the schools of science and technology as well as regarding gender. In order to protect the identity of the interviewees, their specific background information is not disclosed, and the participants were assigned pseudonyms in the analysis.

In the beginning of the interview, the interviewees were asked to draw a lifeline (see e.g. Cermák, 2004) to describe their development as pedagogical developers. They were asked to mark their meaningful experiences on the lifeline and then describe the marked events in chronological order. Semi-structured follow-up questions were used to encourage further descriptions. The interviewees were also asked to describe change agency and the characteristics of a person representative of it, and to evaluate their own

actions compared to their views on change agency. The interviews were recorded and transcribed verbatim.

Analysis

The descriptions of change agency were identified from the transcriptions and analysed with content analysis. The descriptions were based both on experiences and ideals. Content analysis was chosen to acquire a composite picture of the phenomenon of change agency and to provide categorizations comparable to the framework for change in communities of practice presented in Figure 1 (see e.g. White & Marsh, 2006). The analysis was based on deductive category application. The acts of brokering without any further definitions were classified in the dimension of practice alongside descriptions of translation, coordination and alignment between perspectives as well as creating boundary practices. The descriptions of belonging to a community and contributing its development were classified under the community dimension. Reflections on the ways of being a change agent were classified as part of the identity dimension. The meaning dimension included negotiation of meaning through the processes participation and reification.

The four dimensions covered all descriptions of pedagogical change agency in the interview data. The robustness of the coding schemes was assured by having an independent reviewer re-code three of the 13 interviews. Out of the 41 units of analysis identified by the first author, the second coder identified 39, resulting in 95% agreement. Between the four categories of analysis, the agreement ratio varied between 80-100% (averaging at approximately 88%), which was deemed sufficient.

Findings

The study explores change agency from two viewpoints: practices and identity. The resulting categories are presented alongside quotations from the interview data. The interviewees are identified with pseudonyms.

Conceptualisations of change agent practices

The academics described eleven different activities, which encapsulate the practices of change agents, namely making changes, developing holistic systems, sharing information, reinterpreting meaning, creating boundary practices, creating a shared repertoire, promoting dialogue, motivating for development, leading by example, promoting imagination as well as enhancing translation, coordination and alignment between perspectives.

When describing pedagogical change agency in higher education, the interviewees emphasized the importance of making changes by developing holistic systems, such as degree structures, instead of single courses. On the other hand, they also considered leading by example, such as developing one's own course, as a means for developing the joint academic enterprise. In the following quote, willingness to develop things outside one's own position is seen as the main difference between change agents and other academics.

[I have] a need to develop things outside my own position. There are a lot of people here who do a lot of development work, but they have narrowed it down, -- They develop their own courses or laboratory exercises or supervise well their own thesis workers. Change agency means that a person is willing to and hopefully also skillful enough to spread changes within the organization. (Teppo)

The interviewees considered creating boundary practices, such as collaboration forums and disciplinary pedagogical events, as a critical means to promote dialogue between the communities and to encourage idea sharing. In the following quote, the interviewee describes how a single teacher can make a difference by establishing development activities within the department. The quote also highlights the isolated nature of university teaching: academics do not share their thoughts without active encouragement.

We were running our own disciplinary, department level teaching development activity -- I thought that the teachers should be able to discuss with each other. They are spending too much time in their own laboratories, -- it was just a great idea of a single teacher. (Iina)

Boundary practices function as channels for sharing pedagogical information throughout the disciplinary communities. Change agents also reinterpret meaning by, for example, translating top-down change initiatives so that they become understandable to the community members. This interaction provides an opportunity for importing new meanings into the community. On the other hand, interpreting meaning requires promoting translation, coordination and alignment between the differing views. Especially for the academics working without an official developer status, promoting

alignment was seen as challenging. Instead, change agency was described almost as tricking people into thinking in a certain way. In the following quote, the interviewee has adopted an educator identity and emphasizes the need for being deliberative and diplomatic when making changes among the engineers.

I have learned that I need to take baby steps, I can not propose too radical things. If you are an educator, you cannot speak too pedagogically because that frightens the engineers and they will tell you that they do not even understand the terms you are using. -- You need to try to talk like an engineer, and gradually introduce new things to them. (Maikki)

Promoting dialogue and negotiating meaning within the community enables finding a common will and creating a shared vision among the community members. In order to strengthen the mutual engagement to the shared vision, change agents were described to motivate their colleagues to develop their work. In the following quote, the interviewee describes how they communicated a new pedagogical vision within the department.

And we established this project that we began to build. And pretty quickly we got this goal that, -- we want to be recognized for our teaching on a national level. "Now we start working!" And that was the message that we tried to deliver within our department. And we came up with a special slogan that we began to repeat. (Heikki)

According to the interviewees, change agency includes establishing common structures, rules, methods, documents, and timetables for the community. As the University was undergoing a Bachelor's degree reform, most descriptions were related to renewing study

structures and degree programmes. In the following quote, the interviewee describes his role in the reform process.

We probably have the worst degree structure in the world. -- this has proven to be a horribly rigid and bad system. -- the students have as less freedom of choice as possible. – And that is the thing that I could be taking down. If I do these things, I would need the change agent abilities. (Niklas)

The descriptions of pedagogical change agency related to practices are presented in Table 1. The number of the units of analysis in each category is presented in brackets. Each category is also illustrated with a description drawn from the interview data.

[ATTACH TABLE 1 HERE]

Conceptualisations of change agent identity

The teachers described five different elements of pedagogical change agent identity, namely non-participation, development motivation, expertise, multimembership, and engagement in the community.

All of the interviewees stated that change agent identity is mainly based on balancing between teaching and research. This was described as non-participation. They considered change agents as spies or secret agents in the eyes of their disciplinary colleagues. However, the resulting non-participation enables observing things from outside. As “Maikki” puts it, ‘I think that my role could be like, since I am not an engineer and I have not been working at the department for that long, so maybe I can reflect on it from outside’.

In addition to feeling like outsiders, the interviewees mentioned fighting against the mainstream views of the academic community. They described change agency as something rebellious and anarchistic that requires a Don Quixote character. In the following quote, the interviewee describes a colleague who has chosen to be one of the few professors focusing on pedagogical development instead of research.

[Change agent teacher has] courage to do all the things one wants to do. Because the other professors are a bit reluctant in those [laughs], at least they are not that enthusiastic to do these, because research is what people want to focus on. That is where the funding comes from. She has been quite lonely there. -- courage, yes, it requires a lot of vision. (Risto)

Intrinsic development motivation encourages the academics to continue with the pedagogical change agent practices despite of the negative associations and the change resistance of the disciplinary-specific community. The interviewees described a personal need and willingness to act according to one's pedagogical beliefs. In the following quote, the interviewee describes feeling confident about her pedagogical ideology. As she is expected to concentrate on research, she has a reputation as a "bad employee".

Actually this is a very sensitive subject for me within our research group. I feel that I am like a weirdo, -- But on the other hand, I am very proud of the fact that I have been very confident on my thing, that I have been a bit of a bad employee. (Iina)

The reported intrinsic development motivation and confidence were often based on an identity of pedagogical expertise and professionalism. In order to fight against the

hegemonic views and to share information, change agents need to know what to develop, how, when, why, and with whom. As “Niklas” puts it ‘If one wants to affect things somehow, -- one should probably try to have some kind of an understanding on the direction of developing our learning environment here’.

In contrast to the descriptions of non-participation and the anarchistic nature of change agency, the academics stated the importance of being a legitimate member of one’s various communities. Legitimacy can result both from having an official status as well as personal authority for making the changes within each community. For them, multiple memberships meant engagement to the joint enterprise, knowing the key people, and speaking the jargon of each community. Change agents need to be able to balance between various roles. In the following quote, an interviewee analyses the importance of having the legitimacy to pursue reification within his department.

During the over ten years when I was in charge of my department, I was also acting as a change agent. -- back then I had the change agent hat and I was able to be a teacher among the other teachers. But the main difference was that I also had another hat, I also had the hat of an official decision maker. So in addition to being some kind of a value leader, I was also an official leader. (Heikki)

The descriptions of pedagogical change agency related to identity are presented in Table 2.

[ATTACH TABLE 2 HERE]

Discussion

The aim of this study was to examine pedagogical change agency in the fields of science

and technology. The first goal was to reveal the practices that pedagogically aware academics could use to develop the ways teaching is understood and conducted in their disciplinary communities. Some of the main practices mentioned included making holistic changes as well as creating boundary practices and a shared repertoire between the pedagogical and disciplinary communities. The need for boundary activities highlights the current gap between teaching and research in higher education. The importance of establishing common platforms for academic development is recognized also in previous research (see e.g. Taylor, 1997).

Establishing new ways of working typically requires official decision-making. Reification was deemed challenging for the change agents. Even the academics with an official decision-making status preferred a sensitive, diplomatic approach. Instead of promoting alignment to a certain perspective, the interviewees reported promoting reciprocal dialogue between and within their communities. Also the previous research questions the right and legitimacy of change agents to intrude on the traditionally autonomous academic practices (Knight & Wilcox, 1998).

In order to promote dialogue and mediate between various perspectives, change agents need to have good social and communication skills as well as extensive contact networks. This requirement is in line with previous research on official developers (Fletcher & Patrick, 1998; Ho, 2000; Knight & Wilcox, 1998; Remmik et al., 2011; Roche, 2001; Smyth, 2003). However, the reported definition might limit change agency only for the most social and charismatic academics.

The second part of the research question pertained to the identities the academics could adopt when acting as pedagogical change agents. According to the findings, change

agents need to stay at the margins of their communities in order to critically reflect on the shared meanings and conventions. Conceptualizing oneself into the opposition could instill a sense of power to identify one's mission even if it deviates from that of colleagues. On the other hand, as suggested by Remmik et al. (2011), widely accepted membership provides the change agents with legitimacy to suggest changes within the community. In order to cope with the contradictory requirements of marginality and legitimate participation, change agents need intrinsic development motivation. The importance of motivation has also been pointed out in previous research on change agency (Roche, 2001).

In addition to dealing with participation and non-participation, change agents are balancing between expertise and non-expertise. Wenger's (1998) definition of brokering implies that the agents are not actively advancing their own teaching or research. Instead, their expertise lies in the change agent activity itself. In this study, the academics described feeling personally obliged to create boundary practices, promote dialogue, share information, reinterpret meaning, and mediate between different perspectives. The reported activities reduce the time dedicated for research and teaching. Considering the academic reward systems supportive of research and publication activity, change agency can easily be interpreted as academic incompetence (Taylor, 1997).

In addition to engaging themselves into the import-export activities between communities and making changes on an organizational level, change agents were expected to be exemplary teachers who lead by example. Further, in order to be taken seriously by their disciplinary colleagues, change agents need to be experts in research. The stated requirements for expertise in research (Brew, 2002) and pedagogy (Roche,

2001) are in line with previous research on academic development. These demands contradict the definition of change agency as expertise on acting as a broker between communities. Instead, the proposed requirements further confirm that transferring concepts from one community to another is not considered to be a part of academic expertise.

In brief, change agency requires finding a balance between teaching and research, making changes and acting without official developer status, commandment and persuasion, participation and non-participation, legitimacy and marginality, expertise and non-expertise, as well as working on an organizational level and leading by example as a teacher. This study enriched the framework presented in Figure 1 by adding eight new perspectives to change agency, namely making changes, developing holistic systems, sharing information, promoting dialogue, leading by example, motivating for development, and having an identity based on development motivation. The emphasis is on promoting dialogue, strengthening engagement to the discipline-specific community and imagining its future possibilities rather than on promoting alignment to a certain way of doing things.

Limitations of the study

As the study is conducted in the fields of science and technology within one Finnish university, further discussion is required on how the conclusions can be applied to various disciplines and higher education contexts. However, the study provides a theoretical and empirical basis for further studies. Despite the limited number of interviewees, the data enables a comprehensive analysis of the phenomenon utilizing the

chosen theoretical framework.

Practical implications

There is a well-recognized need within higher education to conduct pedagogical development on a programme rather than course level. Programme level development requires collaborative engagement to changing the shared pedagogical practices. Achieving this transformation should not be based on a top-down reform. Instead, it should be based on lowering the threshold for unofficial proactive development work within the local academic communities. This implies a need to create alternative approaches to pedagogical development (James, 1997; Knight & Wilcox, 1998; Taylor, 1997). Pedagogical change agency as defined in this study represents a novel development approach on an organizational level.

Being members of their disciplinary and pedagogical communities, change agents have a profound legitimacy to influence academic work by introducing new meanings and practices into those communities. Recognizing change agency as a valuable source of organizational development would enable the agents to deal with feelings of non-participation by finding one another and developing shared practices around the enterprise of brokering (Wenger, 1998).

In addition to seeking support from one another, change agents could gain acceptance both in their pedagogical and discipline-specific communities by conducting research on disciplinary teaching. This would exploit the synergies and communicate the value of change agency to the wider academic community according to the shared research-based criteria (Brew, 2002). Establishing publication practices and a shared

enterprise around brokering would also help spreading the isolated development efforts of pedagogically aware individuals (Weick & Quinn, 1999).

Spreading of change agent activities within higher education would require abandoning the traditional view of academic work as individual, isolated tasks conducted in silos (Knight & Wilcox, 1998). Developing the shared practices and repertoires as well as trialing holistic changes across the organization should be an integral part of academic work (Remmik & Karm, 2012). If the communities would make brokering a part of their regime of competence, it would not pose a threat to membership. Instead, it would unleash the development potential hidden in community marginalities (Fullan, 1993; Wenger, 1998).

Taking into account the possible change agent identities and practices in pedagogical training programmes might support the spreading of change agency in universities. Informing the academics on the possible practices and identities related to brokering would benefit the work of the potential change agents. In order to control the direction of development, university vision and strategy should be well understood and agreed among the change agents (see Fullan, 1993). In addition, establishing structures that enable pedagogical collaboration and bottom-up development across the communities is required on an organizational level (Smyth, 2003).

Based on the findings, further studies are required on the impeding and enhancing factors as well as on the effects of change agency on a community and an organizational level. Multi-institutional study would reveal the disciplinary and contextual aspects of change agent practices and identities. Also, identifying trajectories of change agency would enable novice academics to orientate their careers towards acting as change agents.

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